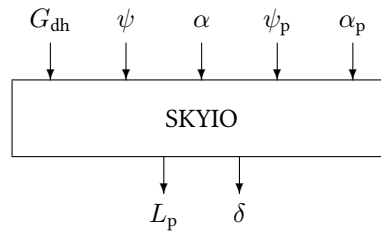


## Block SKYIO

The SKYIO block simulates an intermediate overcast sky.



|                   |        |
|-------------------|--------|
| <b>Name</b>       | SKYIO  |
| <b>Function</b>   | em0027 |
| <b>Inputs</b>     | 5      |
| <b>Outputs</b>    | 2      |
| <b>Parameters</b> | 0      |
| <b>Strings</b>    | 0      |
| <b>Group</b>      | S      |

### Inputs

- 1 Total horizontal diffuse radiation  $G_{dh} / \text{W m}^{-2}$
- 2 Solar azimuth  $\psi / ^\circ$
- 3 Solar elevation  $\alpha / ^\circ$
- 4 Point azimuth  $\psi_p / ^\circ$
- 5 Point elevation  $\alpha_p / ^\circ$

### Outputs

- 1 Point luminance  $L_p / \text{cd m}^{-2}$
- 2 Angle between point and Sun  $\delta / ^\circ$

### Parameters

None

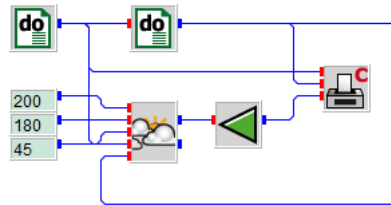
### Strings

None

### Remarks

The equations and coefficients are taken from the source “Daylighting in Architecture – A European Reference Book” pages 3.6 and 3.7 published for the Commission of the European Communities by James and James (Science Publishers) Ltd. 1993 Brussels and Luxembourg

skyio.vseit



Two nested **DO** blocks vary elevation between zero and ninety degrees in steps of one (inner **DO** block) and azimuth between zero and 360 degrees in steps of 1 (outer **DO** block).

The diffuse radiation is assumed constant with  $200 \text{ W/m}^2$ . The position of the Sun is assumed at south (azimuth 180 degrees) at an altitude of 45 degrees. The luminance output of the **SKYIO** block is attenuated by a factor 1000.

Hence, the **PLOTPMC** block displays the clear sky luminance distribution over the sky dome in  $\text{kcd} / \text{m}^2$ .

